
10.52

March 6-12, 1989

## $X$ films on your computer

Feature films are to be turned into computer games by a new software company which will reiease its firss game in the summer.

And some will be based on X-rated films, stid the 29 -yearold boss of Palace Software. Pete Stone.
He has been with Video Palace, the big Oxford Street video and comptater sofiware store, for two years. Palice Software is part of the Palace group, including Palace Video, which distributes to about 6,000 video shops, and film makers Palace Pictures.

This means that the new company has access to the nontheatrical rights of many major films - and talks are going on with other film companies too.

Mr Stone would not name the films on which he is planning to base tames.
But Palace Video diztributes hosror titles like The Evil Dead, Confintued an page 5

## Micros and the future

Eleven out of every 100 families now use . home computer and this thme next year it will be one in five.
Then the rise will slow down, according to Pettr Steddart, whose company has just published a report on home computers and soliware.
Next yetur, he said, a quarter of households would have a micro, rising to half in 1990.

At the lime researchers questioned 2,000 families in January, the six leading models nccounted for 87 per cent of all omputers in use - see table.
-And Mr Stoddart expects the domitsance of these manufacterers to increase, unlest their fivals can come up with better products.

The report says that the ownership of computers has grown From an insigniljcant one per cent in 1979. Last year 1.19 m people bought micros 40 per cent of them in the two pre-Christmas months.

Ownership was higher than Continued on poge 5


# Onahosviedtanet deep inspace anearth pà rol is marooned. <br> Only one person can save it 

## TROCRATRUCK

The galaxy's most lovable battle wagon.

Narzon Heatseekers from the back. LasaSlamma lanks in front. HeliChargas from above.

A friendly mission to Zon has become a desperate fight for survival.

Now, as Troopa Truck trundles and leaps across Zon's surface, only one person in the galaxy can save it.

You.
The ticket to Zon is 55.99 (RRP inc. VAT), and the joumey starts at Booss, WH Smith, Rumbelows, or any intergalactic computer games shop. Your Commodore 64 will love it to bits.

## RABBLTSOFTWARELTO

Brilliantan Spectrum, VIC-20\&CBM-64.


## More with your sord

CGL., which markets the Sord 5, has introduced a new starter pack, Pay $£ 149.95$, and you will get the M5, a cassette recorder, BASIC I in a ROM cartridge, introduction to programming, manual and users' guide and two games on cassette. In addition all M5 purchasers become members of the M5 Users' Club.

CGL, Goldings Hill, Loughton,
Essex IGIO 2RR

## Voutoo can be Rommel

Hot from the man who gave you Up Periscope is Kriegspiel in which you become a tank commander. There is a choice of three different scenarios normal, desert and mountain. You can play against a friend or against the computer. The winner is the first to take control of the opposing side's HQ. Kriegspiel runs on the Dragon 32 and costs $\$ 6.95$.

Beyond Sofiware, Durrant House, 8 Herbal Hill, London ECIR SEJ

## - -

## Date for your diary

The Manchester Home Computer Show will be held at the New Century Hall, Manchester, on April 5-7. The organisers say there will be a wide variety of stands showing the latest hardware and software. Admission is $£ 2$, half price for under-16s.
Home Computing Weekly is one of the sponsors of the show, which is organised by Argus Specialist Exhibitions.

Argus Specialist Exhibitions, Park View House, I Park View Rd, Berkhamsted, Herts HP4 3EY


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There are programs for all these computers this week Dragon, pages 10 and 47; Specirum, pages 18 and 24 ; BBC, page 36; Commodore 64, page 28; TI-99/4A, page 39


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5
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## $\mathbf{X}$ films <br> From fronlf page

Basket Case and The Honey－ moon Killers．Its comedies include That Sinking Feeling and Loose Connections－ made by Bill Forsyth，who produced Local Hero and Gregory＇s Girl－and The Rutles and Whoops Apocalypse．

Others include the X －rated science fiction film Alphaville， An Unsuitable Job for a Woman，Diva，Merry Christ－ mas Mr Lawrence－starring David Bowie and Tom Conti－ The Moon in the Gutter，with Natassia Kinskj，Fitzcarraldo， Pixote and Mephisto．
Its catalogue also has music video tapes and instructional and documentary releases．

Among them：Steve Davis on snooker，Jackic Genova on exercising，a cartoon video for children and four titles by Andy Warhol．

Mr Stone，who at present has two full－time programmers， said：＂At present it looks like our first game will be based on a film．But until we know for certain that we＇ve got a good game in the bag I don＇t want to commit myself．${ }^{\text {＂}}$

Would he convert X－rated films into games？

He said：＂Certainly not sex films．But half the Top 10 in the West End are X rated．We are talking about two different things．Take a shooting scene． That may make it an X－certificate film，but in computer games it＇s standard．
＂l would not put out any－ thing that would upset parents． 1 would not want to end up with X－tated games．Our games will be no more X－rated than any other computer games on the market．＂
Mr Stone sees Palace Soft－ ware operating in two areas：in－ house programs，in the early stages based on films，and publishers of software from freelance programmers．

He believes，however，that the days of the schoolboy programmer working at home are nearly over－unless he is a full－timer with a lot of talent－ and that future software will be produced by teams．

He also believes that bis company is well placed with its links with video and experience of marketing and distribution， for which a separate team is being set up．

A number of video rental shops were now selling computer software，although many had a lot to learn about the market
Palace Software， 275 Penton－ ville Rd，London NI 9NL

## From from page

average in households where the ＂male head of househoid＂was aged 15－24 or 35－54．

The report says：${ }^{\text {＂Commo－}}$ dore＇s market share has increased from 12 to about 22 per cent while Sinclair＇s has dropped marginally from 58 to 49 per cent．
＂The BBC model B doubled its market share from five to 10 per cent，but Dragon must be disapointed that they failed to increase their share from five per cent in Janauary 1983．＂

The report，by Gowling Marketing Service，says the sale of software by mail order appears to be declining a that less than 15 per cent was bought in this way．

Last year computer users bought about 11.3 m items of software－about tive per user －and of these 70 per cent were arcade and adventure games and educational packages amounted to 23 per cent．

In 1984 Gowling predicts thas sales could reach 12.6 m with the games percentage rising to 74 per cent．

This year should also see ＂exciting＂opportunities for makers of peripherals，says the report．If comments：＊While it is dificult to estimate the value of this market，it is likely that micro users will spend at least the equivalent of the cost of the original machine on peripheral equipment－see table．

Under the heading of sales forecasts for 1984，Gowling says：＂The major constraint facing this industry is the size of the total market available to it．＂

Most micros are owned by families with children and the total number of these in the U．K．ws 32.9 per cent，or about 6.5 m ．Just over hall were aged 10－16．

So sales potential could be less than for video recorders and it could be expected to peak before that of videos．

Other factors included price． As prices came down demand would obviously increase，but growth lor more expensive computers－like the BBC model B and the Commodore 64 － 5 uggested the market was becoming more discriminating． The relatively high price of these machines could dampen demand．

Another factor was the growth in the second－hand market．

The report，Microcomputer End－User Research，costs $反 75$ ．

[^0]|  | \％Jan 84 | totals Jan 84 | 明 Jan 83 |
| :---: | :---: | :---: | :---: |
| Spertrum | 28 | 6000，000 | 14.4 |
| ZX81 | 21 | 450，000 | ＋ 43.4 |
| V1C－20 | 13 | 275，000 | 12.4 |
| BBC ${ }^{\text {B }}$ | 10 | 225，000 | 5.2 |
| Commodore 64 | 9 | 200，000 | － |
| Drason | 6 | 125，000 | 5.2 |
| Acorn Electron | 1 |  | － |
| Atari（all） | 1 |  | I |
| Colour／Video Genie | 1 |  | 1 |
| Laser 2000 | 1 |  | ！ |
| Lymx | 1 |  | 1 |
| Oric | I |  | － |
| Sharp（all） | 1 |  | 3.1 |
| TRS－80 | 1 |  | I |

How many owa what－Jenuary 1983 compared with Januery this yedf．Percenalage do mol fotal 100 due to rounding．From Microcomputer End－User Research，by Gowilng Marketing Services．

|  | 轎 of micro owning households with equipment | Approx No，with equipment |
| :---: | :---: | :---: |
| joysticks | ¢2 | 1.11 m |
| expansion box | 26 | ＋． 59 m |
| printer／plotter | 20 | ． 43 m |
| extra RAM | 11 | ． 23 m |
| disc drive | 10 | ．21m |
| symihesiser | 9 | ．19m |
| EPROM | 7 | ． 15 m |
| light pen | 7 | ．15m |
| graphic tablet | 2 | ．04m |
| colour card | 2 | ． 04 mm |

Ownership of peripherals－from Microcomputer End－User Research， by Gowling Marketing Servicet．

## YOU cOUId be on our pages

## We welcome programs，articles and tips from our readers．

PROGRAMS must always be sent on cassette． Listings are helpful，but not necessary．Check carefully that they are bug－free．include details of what your program does，how it works，variables you have used and hints on conversion．
ARTICLES on using home computers should be no longer than 2，000 words．Don＇t worry about your writing ability－Just try to keep to the style in HCW．Articles most likely to be published will help our readers made better use of their micros by giving useful ideas， possibly with programming examples．We will
convert any sketched filustrations into finished artwork．
TIPS are short articles，and brief programming routines which we can put together with others．Your hints can aid other computer users．

## Competitive rates are paid．

Keep a copy of your submissions and include an SAE if you want them returned．Label everything clearly and give a daytime and home phone number if you can．

Paul Liptrot，Home Computing Weekly，
No． 1 Golden square，London W1R 3AB

## NEWS

## Parlez-vous French?

Tansoft has just announced Language Masterclass, the first computerised Link-Word foreign language learning system, Claimed to provide the ability to communicate in the learned language in less than 12 hours, Masterclass is aimed at students and British business men travelling abroad.

It is based on the Link Word method developed by Mike Runeberg whereby you link foreign words with similar sounding English words,

Supplied with a program cassette containing a 400 word vocabulary and a grammar tutor, a spoken vocabulary pronunciation cassette and instruction manual, Masterclass costs $£ 12.95$ for the Oric 1 and Atmos.

Tansoft Lid, Units I and 2, Cambridge Technopark, New market Rood, Cambridge.

## QL program alreadyl

Joe the Lion says it is the first with enange of programs for the Sinclair QL.
Spectrom Emulator comes on a Sinclair microdrive cartridge and allows you to load Spectrum machine code programs into the QL. Price: approx $£ 25$.

This high price is due to the fact that Microdrive cartridges can only be obtained from Sinclair and that the QL has no cassette port so this has to be provided as well. A similar emulator is also planned for the BBC micro.

Joe the Lion, 213/215 Market Street, Hyde, Cheshire SKI4 IHF

## 40 winks with Optima

Latest games to come out of Optima include Bedbug and Omega Probe, both for the BBC computer.
Bedbug is a totally original game - you have to get to sleep. Preventing you is a horde of fleas and bed bugs which you have to combat, armed with only your false teeth and a jam buttic. Omega Probe is more civilised - you have to survive a space mission.

Optima Software, 36 St Peters Gare, Stockport SKI IHL

## A handful of Shards

Shards has launched six new games. For the Dragon 32 is The Mystery of the Java Star a four-part educational adventure will puzzles, mysteries and information; Shaper, sound utility; and North Sea Oil -a real-life simulation.

For the BBC Model B there is Laser Letters, an educational word game; and Pettigrew's Diary, the BBC version of Shards' Dragon adventure. Empire is an Electron version of the Dragon strategy game. Prices: $£ 5.75$ - $£ 9.95$.

Shards Soffware, 189 Efon Road, Ifford, Essex IGI $2 U Q$

## Cosmic Cable

Latest programs to be announced by Cable Software are Cosmic Bounce and Nursery Nightmare, both for the CBM 64 at 18.75 each.

Cable Software, PSL Marketing. Cape House, 52 Limbury Road, Luton, Beds LU3 2PL

## Steve John Bob Paul

 out.
## ONE MAN'S VIEW

## Roaring to my dream of wealth

I rolled down the window of my super-blown red racer and turned to view the glistening array of lights and gauges ahead of me. My fuel rank: full. I reach down and fumble for the ignition key. One turn and the massive engine thunders into life, the hypnotic whirr of the exhause, the rumble from the engine. I knew they would make me easy prey for the deadly Black Turbos.

I turn and a gruesome sight awaits my eyes - a Black Turbo, its exhausts spitting out power. The glowing suns fire their lethal rays which dazzle and sparkle on the Turbo's shiny body shell. A movement catches my eye. The driver, in his leather suit, winks at me and with devilish grace he lowers'his visor. Our engines roar and we exchange glances, It is time.

I slam my foot down, almost through the floor, My head is jolted back and the wheeled monster is let loose. Immediately the Turbo snarls to life and makes siraight for me. I grasp the cold, sweaty wheel and turn with all my might. He's still behind me. I glance at the control display and a sparkling catches my eye. I press the appropriate butfon and a cloud of black smoke billows out of my exhaust.

Despife my fear I manage a snigger, but it is cut short by a piercing screech. Again I glance down and wipe my visor.

My scanner shows a small, insignificant point flashing on and off. This small point represents a million dollars, or, if not collected, eight years imprisonment in the much-feared Doomsday Lair. The thought of the lair sends an icy shiver up my spine, so I cool down the speed and punch co-ordinates into the onboard computer.

It is time to relax and I sink into the padded leather seat. Victory is within a kilometre's journey. I dream of the wealth that is mine. Soon the mighty machine draws to a halt. I reach for the door handle and step out into this hostile environment. If's therel The idol of my dreams. The great Cup of Ulimate. I climb over the golden sand dune and hold its glistening handles.

With dreams in my mind I read the fabled inscription on the side: "TranzAm loading instructions. Connect the ear socket on your Spectrum to the..."

TranzAm - game or reality?

Paul Mulroy<br>Fallowfield, Manchester

[^1]
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## SPECTRUM SOFTWARE REVIEWS

## Pi-Ealled $\varepsilon 6$

Automata, 27 Highland Red Por15mouth PO4 9DA

Another Automata winter! An extremely addictive Pyramid of Pl game using the Spectrum potential to its fullest, as well as machine code - with the added speed this gives where needed.
The program, compalible with the Kempston joystick, introduces the characters on the two loading sereens, the second animated to include flashing star: of David. Is Burt, the star, Jewish, perhaps?

There are blocks on the side of the pyramid, which changn colour to malch that shown 1op right, as Burt moves across the side. The 1wo Ball brothers, Bobby and
 assistea by one iscasfonally
changing into Sid Snake and by Pixel Prince Col who changes the blocks back to the origtnal colour Burt is helped by Pixel Prince Jas changing blocks to the new colour and by a magic flyng diec that allows him to lure Sid off the pyramid.

Scoring is pron-lit al top left above jumping Burts showing how many lives are left, and is added to by hoves, completed pyramids and by leading Sid astray. Unfortumately, I havenor as yet, completed all the 66 possible sereens... but there is time yel!
T.W.
instructions
$95 \%$
playability
$998 \%$
graphics
$99 \%$
value for money
95*

## The Snowman ع6.95

Quicksilva, 13 Palmerston Rd. Southampton SOI ILL.

There can be very few people who haven's built, or at least helped to buld a snowman. That's what this game, based on a cherming boak by Raymond Briges, is all about - building a anowman and dressing it up.

First of the four stages is the actual building by picking up randomly-placed piles of snow and tiking them to the site. Athough classed as baddies, I found the ests flames enctanting litule things, in spite of the fact that they melt your anow. Yous have to find the ulimate weapon against them - an ite lolly.

Remembering that erixef make points, you fape to gainer ase all
the soodien you find, Ont false step and you are floating gently downwards to a thoughtfulty provided bed, dead of course.
Other stages require you to collect items to complete your snowmin. I'm not going to tell you about that - I don't want to spoil it for you.
A slight bue may frutirate, but not stop, your play: at etralain points left or pight keypresses don't respond. It's the same for joystick as well, I'm afraid. However, this won't stop anyone under 110 enjoying this delightful game.

|  | B.B. |
| :--- | ---: |
| instructions | $100 \%$ |
| playability | $100 \%$ |
| Braphics | $100 \%$ |
| value for moncy | $100 \%$ |

## 2axxedit

 E5. 50Starzone, 74 Walinglord Rd, Shilling fiord, Oxon
A semi-3D version of the atcade gane Scramble. I say semio3D as ganly the bottom and leff wall of only tusnet ore displayed es is the tusinet are displayed to botiom left.

The idea is that you have to fly your piane low enough to make strikes on the fuel dumps, radas installations, rockets and planes, but then climb fast enough to avoid the cross walls of varying heights that are forever coming heights
towards you, Alf this, plus dodging the ground-10-air missiles that are launched at you, makes for s difftcult and tense game - especially as the 3 Deffect makes it very disicult to judge
your exact postion relative to the missiles and the gaps in the wall. The shadow of your plane helps The shadow of your par eycen ont as well wowerthine else?
well as evarything eks Good une is made of the Spec-
Good ute is made of the spoctrum's braphics and sound capability, The only slightly capabitiy, disappointing thing about the disappointing thime scroll is by game was that the scroil pixels. charecter squares, not pixcis, making the action rather jerky, But still, a small price to pay for Eut original anjle on an old ravourite.

vaphef for money

## Laser Zone E6.95

Quicksilve, 13 Palmertion Rd. Southampton SOI JLL

An unfortunte combination of paper and ink makes reading whith's on the screen rather difficuls. However, by studying the inlay, you can derermine what is supposed to be happening. You have a choise of keybomid, or joystick, individual or team play.

The object if to desiroy waves of nliens by manipulating two cannons. One lies at the botion of the screen, and the other at the right. By using a combination of keys the cannon can be made to fore diagonally, as wetl as at right angles. This diagonal cross fire conld destroy your own cimion. of course, so careful positioning is aeeded, If any aliens do manage
to land on your plane they will march towards you und can only be destroyed by an electro bolf. You star with thee of these bolts. and ean collect up 10 four more. Later assault waves bring "pods", which youl canaol destroy. They have a disturbing habit of suddenly exploding, and will destroy your cannonts if they wre in the path of any fragments.
I found the combination of keys tiring, and not the impression that the action didn't match my efforts on the leybboard, Altogether a disappointing experíence.
instructions 105 piayability 750 graphics value for maney $75 \%$ 4tarct


## Your Quest: To escape from Scarthorpe!

Scarthorpe is the sort of town where even the dogs carry flick knivesi Where there s only one road in, and that's a one way street The sort of town where rebuilding means a new coat of paint, and where people queue up to quewe up for a jobl Not many pecple come to Scarthorpe, and even fewer leave. The church bells chime three in the morning ... the streets are deserted ... now is your chance to Escape from Scarthorpel 48k Spectrum $£ 6.50$

## RICHARD SHERHERD SOFTWARE

## DRAGON 32 PROGRAM

# Your chance to hit the jackpot... with no coin slot to feed 

Playing the fruit machine in my local almost always left me with little in my pocket but air.

I started thinking that feeding an innocent-looking, but greedy, slot with all the change I could lay hands on was no better than cleaning my shoes.
So I sat at home thinking, and cleaning my shoes due to a lack of money.

I decided that with me being a computer fanatic - as well as a good shoe cleaner - I was going to write my own fruit machine program for my Dragon 32.
This took a little longer to write than I thought - like two weeks longer. But the result, 1 feel, was worth the wait.

I tried to keep as close to the original as possible in the way that it gambles, nudges and so on.
All the features of the game are given below.

## Payments

Two matching fruit in columns one and two
$20 p$
Three matching fruit pay:
cherries
30p

| cherries | 50 p |
| :--- | :--- |
| lemons | 50 p |
| apples | 50 p |

plums
50p
plums
70p
pears
100 p
bars and melons
E2 jackpot
When you run the program it will spin the first go for you but the rest is up to you and is controlled as follows:

## Start

To start the reeis spinning just press the space bar. Pressing Q before spinning the reels will give you a money check.

## Holds

When the computer decides to give you the chance to hold any of the three columns the three rectangles below the columns will flash red and sound will be heard from your TV. The hold buttons are 1, 2 and 3, respective to each column, and the zero key will cancel holds.

## Auto hold

If you are given two holds coasecutively then the computer will automatically hold the columtin/s from the last hold unless changed or cancelied.

> We reckon this is one of the best fruit machine games for any computer. It was written for the Dragon 32 by a contributor who likes to be known as just Klarzy. All the features of a real machine are included

## Gamble and collect

When a winning line appears the computer will go to the test screen on which is a list of all possible wins. Arrows will point to the amount you have won, the amount you could win by pressing the enter key and the amount you would collect if you lost the gamble. To collect just press the space bar. The computer will call you it coward and return you to the fruit machine.

## Nudges

When the computer offers nudges a line will flash up and down on the left of the machine and emit sound. You then press the space bar to collect them. You will be given live nudges and the line shows the number left at any stage.

The program uses PMODE 3 and makes the most of the Dragon's colours and graphics. I reckon it's as good as all the commercial programs I've played. Even so, I've left room for improvement, such as random nudges and so on.
P.S. I don't spend money on fruit machines any more. I don't know whether this is because of the program or because my girlfriend has become my bank manager...

## Hints on converxion

Plum's Up uses standard Microsoft BASIC so it will work on the Tandy Colour Computer if the keyboard PEEKs are changed.
It will adapt to mast other computers if the graphics are altered.

20-60 defines variables for jackpot tune
70 defines variables for the thrse columns $90,100,110$ GOSUB $2680,1880,2920$
120 checks if column one is held $130-299$ routine $t 0$ spin first column
300-420 places chosen fruit in column one
430 places muddle fruit into WBS 40 checks if column two is held $450-610$ spining routine for second column
620-740 places chosen Irait in column two
750 places middle frut into WCS 760 checks if column three is held $770-930$ spinning routins for colymn three
$940-1060$ places chosen fruit imo column thres
1070 places middte fruli into WDS
1090 1akes 10 p from carrent account
1120 checks if winsing line, if so goes to win routine
1130 get nudge routine
1140 sets RH to random ntmber (1-5) used for holding routine 1160 GOTO hold routine
1170 money check if esked for
1180-1200 start routine
1210-1390 winning routire which determines how much won, if jeckpot goes to jackpot routine
$1400-1740$ gambic and callect toutintri. Adds winnings to account and sends you to jackpot routine if you reach 8

1750-1840 jackpot routine
1860-1870 back to start routine 1880-2670 drthwing routine for fruit
2680-2760 routine to put 20 fruits to each column in costel order
2770 -2850 routine to put fruit on screen
$2800-2910$ data for 3 by 20 columas of Fruil
2920-1110 draw fruit machine
3120 determines whether to give hoid. If yes, then hold routime
$3130-3170$ restore all hold variables and so back to hold routine
3180-3330 hold routine
3340-3350 decide whether to give nudges
3360-3440 rotuine to inform user that nudges are given
3450-3500 display number of nudges left
3510-3580 gets user's move for nudge and sends it to relevatis column
3590 check fif winning line. If 50 , then winsing routine
$3600-3640$ goes back to begining of nudge coutine if any left, else goes to start routine
$\mathbf{3 6 5 9 - 3 7 2 0}$ money check routine
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2TH JFP，ZDTHENP＝1

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こちの GOTロ14品
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274 T＝0

390 GOTDIAR
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314 $\mathrm{X}=4$ 月 $_{\text {：}} \mathrm{Y}=20$
379 FORO＝F $\mathrm{F}=1$ 7 $\mathrm{CR}+1$
3 y Pmo
49 IF Q ＜ 1 THENP』\％
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2， $\mathrm{Y}=\mathrm{Y}+5 \mathrm{~B}$
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H14 AS＝D ©
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1148 F-mRND(S)
1156 LINE{14,173)-(14,25) %FRESET
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llos EOTG3:20
1198 1FPEEK{345!<,22STHENL170
1197 SOUNDG5,2
12%% EOTD:20
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189% DtrRHEL (2%, %0)
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191% Ff, 5
142% CIRCLE (128,9日),20, %.75
19 न C[FCLE!118,901,15,1,.,75, 25
1740
174G FALNTN1%8
195R F ORRD1102
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1998 IFT=ITHEMRK=.5
20064 1FF=?THENKR=25
2B2D LFT=|ANDC= ITHENS=* E
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IG.55 CIFCLE
207日 NEXTG
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## 20 AB PCL 5

2106
2110 DIMCHE（ 20,20 ）
2120 C1RCL．E（129，93），10，42PAI＊NT $(128,93), 4,4$
 ，109， 10,1
 103），10， 1
21 ＂S COLORS， 1
216 LINE（I10，日0）－（tic，102），PSET
 SE $\Gamma$
21 em COLOR4， 1
2190 BET（188，79）－（149，120），CHE
2200 PCLS
2210
2220 PCLS
2230 DIMPLUI2B，2月
2240 CIRCLE $\{128,90\}, 15,3,+75$ rPAINT $\{128,98), 3,3$
2250 CJRCLE\｛12e，80），28，4，．7\％， $\mathrm{B}_{1}, 15$

2270

2290 PCLS
2300 CDC AN2，IILINE \｛1明，7B\}-\{148,118\}, PSET, BF
$2318 \operatorname{col}$ GR 3,




2360 COLORA， 1

2368 LINE $\{108,112\}-\{148,118\}$, PSET， EF $_{F}$

24 mbl PCL
2410

2436 CIRCLE $128,981,17,2, .753$ PAINT 4128,90$), 2,2$
2440 CIRCLE\｛129，98，20，2，03

24．s．PCL．
2478
24日





2540 COLOR3． 1

2369 CDLORA， 1

25 H © PCLS
249


2620 CIRCLE（130，96）， $1,2,1,75 \mathrm{PAINT}(134,92\}, 2,2$


265 GET（19B，78）－（14日，1t日），PE．A
26t0 PCLS
2670 RETURN
26 F6 FOPI＝1TDA
2649 C $=1-20$
2709 Det－40

2720 ：F［く21THENE（I）＝A


27＊ib NE WT1
276 RETUFN
2770 PMODES，1ISCREENE
2780 ［FA＊${ }^{\text {M MEL＂}}$ THEN PUT $(x, y)-\{x * 40, Y+40\}$ ，MEL


＇目16 IFA\＆＝＂CHE＊THEN PUT $(x, y)-(x+4 g, y+4 \theta)$ ．CHE


 2 gSa RETURN

2B7B DATAMEL，CHE，APP，BAR，L，EM，PE．A，PLU，CHE ，MEL，APP
 2898 DAYAPEA ，CHE，MEL ，LEEM，CHE，APP，PL U，BAR，CSE ，LEEM
$29 G 9$ DATABAR，PEA，PLU，CHE，APP，LEM，CHE ，NEL，APP，BAA



2940 LJNE（E， 5 ）－（20，S＇，FSE T
29FIM NEXTS
：4by LINE $(14,175)=(14,23)$ ，PREEET
2970 FAINT（128， 9 ）$, 2,4$
2900 LKK JR3，
2990～iNE उ2，12）－（222，168），PSE T，时
wan COUOR2，



## 3 ，PGIE T，BF

3.20 romora，

3由4B LiNE（237，35）－（247，1E日）＂PGET FFF
sasim Couta3．


3080 LINE\｛118，173\}-\{138, 181\}, PGET, B

\＄100 COLORU．
3119 RE TURT
3120｜FRH） 3 THENアIBG

314 PA（NT 412 1 ，177），2，
3158 PAINT（192，177），2，3


उ1E9 FOAH＝2T04STEP＇2


3218 PAINT IAB， 177 ， $\mathrm{H}_{4} 3$


3240 1F＊
325e ParNT4\｜92，177），H43

527｜FAA年




332每 NEETH
333 EOTOSIE0

335日 IfRN＞S THEN 1149
3＇36 방 14
3378 RL＝fND（159）
33 Ef EOUNDIE日， 1
5390 LINE \｛14，1732－614，173－RL，„PSE T
34po sound 200 ，I
341由 CJHE \｛14，173）－（14，173－RL）；PRESET
3420 SOUND $5=5$ ，

5440 E0T0337B
3454 RS․ 5
5468 8＝150

34E日 FGN20RS TG 1 ETE：F I
5490 E＝（55－（2•2）

3S10 AB事＝1MEY






359 EOTD3518

3609 LINE（14．173）－414，173 G5，PRE St
618 NEx 1 ？

is＂9 NEO
＂b48 GOTD1I4E
＊ 659 CL 5

3670 PRIN才



$3710^{2}$ PHODES，I：SCREENI，D
3728 REETURN

## Hf1frict - OF THE MUTANT CAMELS

 are contriling a nincty foot high, neutronium shiseded, luzer siting death cemelf.


- beusul smodir seroling grephes and no the than 42 dicren athack waveo more than any game in viaso history, The chnteng of play will lat for montha, as you batil to see whats on the noxt wave
17.50




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- Including Interface to plug straight into the Spectrum.
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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| fotipick | Cusmos | SS Enfurgnise | K | $t$ dsi Sur sel | Astrideraster | ${ }^{+1}$ | Robotic : |
| Puatirer | Cytury Ruts | Alte Fiter | Atrinucredidor | Mulershar | Atrotitis 50 |  | Arrimaticitforl |
| PSMST | Gidekedras | Mreterremes |  | U.v, matis | tisust | S.tiva frr | Eapmormider |
| Tifluplity | Sjucoky\%riata | Gufgrman | Atik Atsk | - ETX | - Surecress | Suibreodk | water bre |

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£12.99
$\square$ Triga Command BBC
.
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# Mlssile Control BBC E9.95 

Gemint, 18a Lutteham Rd. Exrnouth, Devon

Another versuon of the classe Missile Command, bul a very good one. It's loud and fleshy, using the BBC's graphics excellently and siving a very arifactive and exciling game Play 15 hectic and can be controlled by keybuard or joysick with options for up to four payers The game fealures three missile bases, six tilles, bombers and smagt mussiles with bonus cites for every 5,000 ponsts High scorts afe recorded bull no table is given. you are simply zo dyour posit on

Although the programmer has tried hard to trimate the arcade original and to stretch the graphics to their limits I found
one or two of the displays too
harsh on the cyes. And I would harsh on the cyes. And 1 woutd the deafentis sound, I dislaked the way it piays Congratulauons if you score enough to have your score recorded. I suppose there may be someone who likes the tune!

The best version I have played at a pree obviously chosen to match Acomsoft's equivalent it wound be mare, however, if some. une coud improwe on the theme ralther than producing vet another version.

## mstructions

 ense of use display vatue for moneyt-t-t-x

Arcade action starrated

## Rot Splet 48K Oric E7.95

Tansofi, Latts \& \& 2, Cambridge Teckno-Park, Newnarket Road. Cambridge
You'll need a sumpe stomach to play this And a pest for your nose mught come in useful, The encion is sef in rat infesied sewers inio which you descend and set sunking cheese balt. Ratt come squeaking and swarming in from all ades and you have to splat them with your hammer
However there are lwo prob Iems. Firstly there is I monster who has befietended the rals and attempts to defend them Secondiy the stenchat of the sheese builds us and eventually will overcatme you You can beat of The mouster with at serosol sar but you huve to work fast and
splat enough rati before you This
The action is pretty furions and requires skilful keyboard opera tuon. One feature I liked was the factity to allow you to select any conirol kevs. Good sound effects were backed up by a ncely pre pared, colour ful display. There is only one basic screen display but different levels can be reached where bonus cheests are set.
If you thank you can face up lo the revoltang routents and like a govd upland down lader chase, Rat Splat is the garac for you

P4.64
instructions
pravab. lily
904
graphues
854
value for mones
प्ञाज

## 

## Chuckie Egg Dragon 32

## A \& $F$, Lruir 8, (anal sute

 Hinchalale Etate. Woodbine StGeneratly in's true that sames converted for miother compulater Many are as fus! ad as the onginnut Which are get tict qui, convervions runn.igg on the prograns fuse Without gurat any compuler fully ysing the capabithoughe to Dew eomputer. Thanatiales of the tase, if is nor thankfally, in thr produced an excelle. A of of has goud tariant, of exne, al least as
lide game. of its speceruma
fiumast rescue the dozen eqge
arolnd the screen climbeng egge
and down laddert, famping
namiladeren fomping gaps

## see-5aw seramble Atari E9.99

Romsk, 272 Argyll Ave, Slough, Berkx
Padde defiectors moved humzontally by porsturk are provided si the top and botrome piaver game this one - foller are used to deflect The pading discs towarda force fiend composed of white hash characters This runs honzontilily across screen centre and is bound on either side of ats length by on toled hines
If a piayer succeeds in propeilurg has disc through a tup score The doted line, he wilt score pount for every thay force-field.

A section is coloured blue. should the dise make conter will be that pars a whinng destroyed by using released lí destryed pad bonus yourts whll Tesuti
There are tous levels of dif ficulty, montly related to speed. ficulty, masty ellowed Sec-Saw seramble takes us bsick to the era of paddic games A brave if some what unlikely move The eraphics are raher limuted Nevertheless. the game can be fun for two to play Bul only just

## Instruetions

playability
graphics
$60^{\circ 6}$
$60^{\circ}$
$55 \%$
$60 \%$

## yalue for money <br> $t \rightarrow+5$

## Eagle Emplre 32K BBC E7.95

Alsgents, 178 West St, Sheffield Sl 4LI

Anather version of the birds flying at vou while you tiy to shoot-hem game and, to be truthiul, I'm geting rather treed of hean This one fealares there screens The first is the swarm. the steond, eges and eagles - which carry on libng eves after you have shot borh wings off - and the third is the master alien You have left nght, fire and shued keys

The game thas pteniy of action and good graphics. but thete are no reas surprises One major crituesm is aboul the onderug of screens and ievels. This is fully
explained on the thay, but s alogial It secma that ondy atowing a sangle shot on the screen al atme makes a game more diflicutt than atiowing any number of them. Bal here the order 15 reversed so you have first o survive an altack whth only one shot at a tome them the rext sereen Brows yous several It may be that this is done for a reason Jf so, please exprain it to we If not. then it is both ilogical and undesirable
instractions playablity graphics vaut for money
$90^{0 / 1}$
and hieching fides an lie tifts
Thus must all be done thets
keeping ciear of the thile wasching your of the hens and toolong the fil lime If you fakie the cage and your houl be lelout of rhined and your hopes of suecens 1 mangged sux full screans of whon, all differeall in tays of though the principie rem rayotir seme The principic remames the
 Deaposesthes
gatme features fikik of variety, the fimila payures quillity graplais, rederine jore keys. And you can fiost enjoyable gem. Alloyether, a

## motructions

mayability
kraphis
"alac tormoney
Bive new arcade-style pames for a selection of micros are put through their paces


Enjoy the hilarious antics of the Comical Mouse as he overcomes all dangers to win the heart of the lovely princess by collecting her lost diamonds. He must climb ladders, slide down the chutes, use transporters and trampolines to jump across divides to escape and F outwit his pursuers. Six screens with three levels of difficulty

VIC 20
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COMMODORE 64
J.S. £7.95 avalable apait

SPECTRUM
48K J.S./K.B. Avmllale apRu

Your comrades are held captuve behind enemy lines... and they are relying on you and your Jetcopter to bring them to safety.

That's the challenge in Blue Monder, from Richard Wilcoz Soflware, which russ on the 48 K Spectrum and any Atarn. And you could win the zume in thes weet's spot the difference competition
We've $\mathrm{g} 0 \mathrm{f} \mathrm{fl}, 000$-worth to give away

The Spectrum version costs $£ 5.95$ and the version for the Atari is E9 95 So there will be between 100 and 168 winners, depending on how many users of each computer are among the whuters.
Richard W Lcox is named after its 15-ycar-old proprictor, a fithformer who wrote glue Thundet with a friend. Trevar Perks, 16.
Richard is, however, being helped by has brother Sieve, somputer retaler, and father Bnan, who runs a buliness software сотраву.
His am, he says, is to produce a small number of high quality games each year. A Commodore 64 version of Blue Thusider is dae out in Apral

As the is studying for 'O'slevels, the next tule will be in early sutums - after the summer holidays Blue Thustere, watten in 100 per cent machine code, challenges you to pilot your Jetcopter through electronic storms, mround- and seabased missites, armoured bastage balloons and deadly jet fighters Your only defence is a set of hyper phase lasers.

Ant, as if that wasn't enough, you must destroy ant unsnble nuclear reactor before you can rescue your captive consrades.
There are five ditferent missions. ob-screes scoring and lightscore「ealure. Biue Thunder woiks with keybourd or joysuick.

# Win... cund face the challenge of Blue Thunder <br> <br> from 

 <br> <br> from}

## How to enter

Seudy the two cartoons below and try to find all the differences.
Mark the differences on carioon $B$ by cirching them wha a ballpount pen and then fill in yourr name, full addrests, the words Spectram on Ateri, depending on which computer yout have gol, and give the number of differences you found
Seal the marked drawing and the coupon in an enverope and write clearly on the back of the envelope the number of dalferences you found
Post your emetry to Richard Wilsox Software compettion, Home Compuaing Weekly, No. 1 Copden Square, London W1R 3AB
Entres close at lirst post on Friday March 23.

You may enter os many times is you wath, but all entries must be on the officinl coupon and cartoon, coptes will not be aecepred


The wingers will be the seaders of the first 100 16 correct entries opened unnl the velue of prizes equals $£ 1,000$. In judgint no disianction will be made between the owners of the two comptiers.

Name
Address

## Computer:

Number of differencen found:

The solution and the bames of the winsers w Cl ] appear in Home Computing Weekly and the prizes will arnve from Richard Wiens Sofiware whinn 28 days of the publication of that issue
Important: please follow these gudelines carefully, incomplete eniries cannor be aecepted

## The rules

Closing dale is Fnday March 23, 1984.

Correct entries will be drawn at random, regardless of computer named, until the value of the prizes equals approximately ft,000. The number of prizer apofarded wisl be beqween 100 and 168
Erities must be fully completed - meluding the number of dufferences wititen on the back of the envelope - and on the official coupon and cartoon, not copies.

Emirise wall nat be accepted from employets of Atgus Specialist Publications, Richard Wilcox Sofiware and Alabaster Pessmore \& Sons. Thas restrittion also applies to employees' families and agents of the companies.

## Rlchard Wilcox Software competition

## Entry Coupon

$\qquad$
$\qquad$





## How it works

140 pratects the machne code from NE W, which is a quick way of getting rid of the BASIC loader
$150-840$ moves the DRAW PLOT and PIXEL-ADD subroutınes from ROM to RAM
$906-940$ alters the sub-routures as necessary
1000-1045 transfers the pseude screes to the real screen
2000-204it tests to sec thal all the DATA has been correctly POKEd
4000-61000 demo program Delete before using program above for your own DRAWings

Type th and RUN my program for the 48 K Spectrum. Nothing will happen for about a manute and the demonstration routhe will produce a smoothly rotating pyramid

And you can draw many other shapes and animate them.
The program is a variation of the DRAW command. However, unstead of DRAW ung lines on the visible screen, it DRAWs them on an invislole pseudo screen, located higher up in memory.

When as many lines as are dosired have been DRAWN on this pseudo sereen, it is then copied to the real screen miore or less instantancously,

A new set of lines - a different plcture, perhaps anew frame in an ansmation sequence - can then be computed invisibly and displayed when ready.

It works by copynng various subrotines from ROM into RAM where they are altered to

## Invisible screen to make moving pictures easier

## Create your own on-screen animation with lan McDonald's program for the 48 K Spectrum. Are you the next Walt Disney?


fool the computer unto thinking that the screen RAM starts at decinal 56382 instead of 16384.

Here's how to use at
When lines 140-2040 bave been entered and RUN successfully, delete all the now unnecessary BASIC, ether line-by-line or by typung NEW,

You have to know the coordinates of each end of the line you want to DRAW.

You can only DRAW straught thes - corcies and arcs aren'l possible.

For each line six POKEs are necessary. To draw a line from (a,b) to (c,d) type

POKE 65011.a
POKE 65015.b
POKE 65017,ABS(c-a)
POKE 65018,ABS(d - b)
POKE 65020.SGN(c-a)
POKE 65021,SGN(d - b)
ABS is on key Gand SGN is on key F .

RANDOMISE LSR 65000 will DRAW the line on the pseudo screen. Nothing will appear on the real screen until you enter RANDOMISE USR 64900.

You can store as many lines as you like on the pseudo screen

## Hials on conversion

Restricted to the Spectrum because it uses the Specirum ROM. Would probably Fit on a 16K Spectfun, but marly of the machine code Jimps would need recalculating Tricky, And the pseudo screen uses up 6 K of RAM




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## SOFTWARE RETIENS

## Out of this world...

## ..or are they earth-bound? Five arcade-style space games are put through their paces

## Lyverso

## Liberator spectrum Es 55

You command a purtisight on a spacectaft and the objective is to spaces poins by shooting down priate craft when they atta, $k$ Following an anticketreely land out instruction sequence, the screen fepresents the wiew screen reptescroswires of the sight and you simply try to line up the centre with the atlacking forces and blass away, Really torces all therc is is the gasme The
that's) aliens loom up quite convineingly "3D" style and if you mass them they never miss you
1 found the control key chosen
W,X,A,D and $S$ for up,down le $[t$, ngha and fire to be so close together as to make ther use very awkward and there is no joystick opkion referred to by Lyversofi A correction to the anlay card A correction is reeded as these instructions is rieeded bution. The pive the wrong firing button, however
Not a game to stretch the imagmation. though if you want to develop manual dextertty you may like the game Ore I shall quickly forger

## Space Ralalers Dragon 32 Es

## instructions

 plavabolity praphistalue lor mones
$\rightarrow 0$ ?

## [1]

65
4ment
4)V

## Demon Ralder T1-99/4A E5.50

## Harmansoft

A rather disappountung photo copied inlay bearing the name and a small thustration, roged upsideinstructions (printed suspicions down ${ }^{1}$ ), conlirmed my susplen based thet this was norused dea
The baule", if if car br called thits grarts in the outer basc. that, staris martian moon, with vour spacecraft makine an unumpretare entrance to the cavern from the top
At the bottom are about 40 At the bowles, with guns on a hill at either side. Scatiered hith al are demi-mines. separated from the power modules by a aled fromithe powne from one hill
force fueld, force field, runimb
top to the other

Lsing the arrow Uing around froing your laser move aroks nothing, itke alaser) (which looks noinng when hore tas been made you can blast the been made you canty after cach power tuodules. Onsy ale a feeble shot do the alens make a feet the attempt to destroy you a missile, aliens have launched over your you have no cont. spacectraft and are unable 10 thove from lis path.
If you are destroyed, the conlputer shetk,ly and instur bou displays 'too tough for yor ha!", What a joke' Overall, a pretty poor game, relying too beavily or luck as opposed 1.3 skull
instructions playability graphics value for money
$95 \%$
$25 \%$
$65 \%$
$20 \%$

## 30space 32 Ralder <br> ${ }^{1}{ }^{1}$ Confirmed space ing ader adjucts wifl enjoy this,

 fast-monsing, $h$ ith is excelictis very diffing graphics I foxceiche Enough intoth to fight moth and if addahte forete gunie tore re fel far (restros the batise enthentiatited nidugh wreent than effects and deveros the Themantion hiath
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instrustions ${ }^{\text {grypability }}$

## Antions <br> pragon 32 ع8

Shrodeal. 41 Truro RU
Austel, Cornwall PL25 5JE
An arade game that dupicates the original (note simulanty of name) to as high astandard as the namel io is waple which, it ms Dragon is capabou $75 \%$ in'svery opurton, is to abous gante allowing muth a $\mathrm{k}, 1 \mathrm{l}$ off aliens as they So 10 kin ollack yout purtion warm to atack tewames frem Mary recent kifer three Wicrodeal rour of back ground optiontis on conce you have chosen
However, onde However, ouct hange your mand wheut relcading Green was best here. It gave a colourtul and varsed gane

Choice of colours apars though, there wasn't mate it though, in the garne to make
vancuy in
adductive. Speed and manoeuvsa-
bulty were required to dodge the dentending hat of laser misssices and the alicrs thenselives wheh peeled off from the main forms foon The speed of interaction was true to the arcade game and the gorstick quite respansive one probiem you liase is the nimitation on your firepower - ont onfe missile al a thate Presung the mate button gles you a fresth missic but wipes the inst one out ther are tactucal advanhages 10 thus Qute difficult to play as ll's
fast moving
ntistuctoss plasablify graplincs grapine for money

# Games for your Spectrum 2 

## A second page of software reviews for the 48K Spectrum. Read before you buy

## Bear Bovyer E6.95

Artic, Mann St, Brandesburton. Drifficld YO25 8RL
You've probably seen eolour adverts with a beat standing on ladder and waving. Here's whel it's abous.

You are Ted, who musk elumb ladders and platforms to get batteries for your new elecitic truck You are pursued by Buvver Bears and a +1Special Mystery Guess ${ }^{+1}$ ! When Ted has collected Guest ine batteries on one screen, he drives to the next, more challeng ing stage. There are swo skil levels" "Baby Benr Mode" and "Bys Bear Mode."

There are tumes and detall and anmation are muperb, cartoan+ style, ficker-free and extremely
reansuc The "eatratet sereens between garnes are even beter than the game leself - the beal have seen for any parme on any machane. There is a beautiful micture of Ted and severd screen picture of ted and severders for in large, rounded letters for exampic, one offers four volume lavers Irom "shh" to "unBEAR levers irom "and sormeng us we could preas 5 to ${ }^{* p A W S}$.

Instructions are brief and to the insiructions are brief and without reveang the my susprises
Bear Bowver should tecome a classic, Dhe Arcadia, Jer Pac, Manic Miser and The Hobbit It is a credit to the Spectrum. M.t.

| Lestructions | $95 \%$ |
| :--- | :--- |
| playability | 950 |
|  | 958 |

playability graphics
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| 400 ny 200 |
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| $5.95^{\circ}$ | Rd, Ewell KTis 0.50 If you can 't beal ficm, totn them author ar the sit talegy, toth them

ately, ho this game bed the asciy, be ham't oume Uive by the Is a very munt jomety finforturn. of Mantichach beiow par vern thrs formic Mifier
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just bloct ge thime plat of ahen
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 and objecte are no siltes don't phonexty pede Monits Pyothing to tela Dedestaiber Prihong to touich instructions original bour and paragrant abrief screens serme Whagraph andef scrempermite weird, thendenrafly, ionral keys This isn't parul. are a tirtie

## Dinky olgger $\varepsilon 6.95$

Postern, Po Box 2. Andovers ford. Chellenham GL. 54 SSW
Postern certanly won't arouble the Advertising Standards Authortly the program is billed as "fast, funous and as mean as as "fast, funous and in fact, 100 fast, they come 'and too mean'
The object is to cleas the playing area of cherries and playiag arka a feal I have never monssers - a feal have haveral bull achueved You have a erystam out to throw gh the monsters, but this. may nol aiways securn immediately, so
throw counts
This sounds easy, i catn matre you It isn't You see, the montiters can move twice as fass and head can move (wice as ass ang you've for yeu salt
guss dug?
yust dug'

# The CDS experience,more action.... more adventure.... 

This is Timebomb a brand new Arcade Adventure game from CDS. Just one of a new range of exciting programs....



CDSMkno Systems

sconion matik

## How il works

1－25 set up user－defined graplucs． priml instructions，sereen couours，defore vanables
30－40 mput difficulty level
50－180 main loop printa cars， checks for movement，gears and crashes；prinis scores and hyes Printh scenery and track
1000－1020 prisl oppast תl cat

2（155）－21）60 $\log$
2218－2304 road nartows
300）－1020 road works

40ND－402d right dryving
4501005070 high score routge
8010－8030 crash routinc
91K0－9130 data

Monaco GP is for all ithose people who thank they can win behind the wheel of a grand prix racing car．

Choose one of the nine skill levels and the game starts at once． with the trees and the track scrolling past

Opposing cars start to appcar． moving fasier depending on the gear you have selected．

The drivers are very intelhigent and lock onto your last co－ ordinate，so you are dodging all the time．

Once you have finished druving through the mght other obstactes appear－3D logs，oll patches， road works，narrow roads，fuel depots and so on．

You steadly gan points and more are added as you pass each obstacle safefy．Score and lives remaining are shown at the top of the track

After a white you will need to


> Test your skill in the Monaco CP， Neil Hewitt＇s fast－moving game for the Spectrum．As well as the obstacles，there are other drivers on your tail

refuel，so you must go through the fuel depots．If you do this safely you also gan extra points． If you don＇t then all your tives are lost．

There is a lugh－score table for the three best，which can easily be extended to more．
My game runs fast and will iest your reflexes to the uimost．The beep un line 81，which gives a con－ tinuous sound，slows it down slightly．

To make the game trickier you could try playng it with just one life．

1 think the graphacs and the cars are very lifelike and the scrolling is farily smooth．

The capial letiers in quotation marks are user－defined graphics and should be entered in GRAPHICS mode．
This is what they represent． A－F，car，G，tree；H－K，onl，M－V， log
Note；there should be a＂greater than＂symbol on lune 3515 after IF J．

## varimbles

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[^2]
## SPECTRUM PROGRAM

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9mg? DN'A 151, 151,45,40,749,4日,224,2:4
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9012 DA,A 0,&,0,7,795,255,8,2%55
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9019 DATA 3,255,192,6J,24日,0,0, 6
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HMU1 DATA 755, 1%, 34&,724,184, 247, 215, 隹
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# SOFTWARE FOR SPECTRUM AND ZX81 

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We aim to create programs which you will keep on using until your computer wears out You won t find our programs in the top ten and you wr look in vain for colour adverts and lancy packagng Nevertheless we have bu t up a sold fonowing of discerning users in all parts of the world Read the revaews of pur programs if you can find them．We have been consistenity prased for quality，origunalily and value lor money

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## SPECTRUM SOFTWARE REVIEWS

## Make more use of your spectrum

## Draw and learn with your computer. Our testers report back on a new batch of five programs - how useful were they?

## How Long Mave You Got? E3.45

Fasimead Computer Systems. Easmead House Lyon Wey
( amberley, Surts)
The title refers to your life expectancy Lekr all the Eastmesd Medlual beres, this had severe loadarap problens, cauned be poar quame recordings\% and an over quank series of minnduciory SCREENS with tmpressive sounduy tutles
Bused on medical vathitcs, th asking question about your hirestyle and habus, together with waght etc. 11 gives an estmate as to how long you're likely to last! Eack factor has a welghting in Eack factor has abtracted. The
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Eastmexd wall pleased to know tonly have nune years left on the biats of the progeam! But to be thonest I gol wo tired of triag to wad thus beass, 1 armoul pave up If you can get a acopy that hesd. and oulte a bellever in probabilities based on slatsstics. and you wanl to examine wat life sthie in terme of your tongevily, then the could be fur you. instructions ease of use display vilue for money

## palintbox <br> 48K E7.50

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## The complete Culdeto Medferme



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## Chess rutort ala Spectrum Eg.gs <br> 

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Draw 15 is is utlity, also avallable Draw Tixting for $[$ [z. which allows ar 0 destgn and colour shapes, yunk an almost unhmases. mumber of charach RAMIOP shore the sing a BASk toutine and using a ben to the sereen hised, pokt themer words you as required our owit shapes atom the screen.
You can, of course achueve the ame using the internal UDGS. but the number is luruted. Dra ${ }^{1}$ \& gets round thus.
 Tre proghat comes with a frendly butual which eoes detailed manual the whole thing The
through the
provisional version wht howeserd confusing, int that which obviously ar a twpewriter wish I And you has no I hot, Just an suppod with necd torth it is atso suppall on allt tharacier devqer gends Aour fiver, if voo pet a lon lor your in th you're prepared to stick aren't The results, bowe pokt wo very umpressive astine is stuw bud the sth! you an buy a Graptoss behroubte in machine code from fowler and thes with do the wrik meety fine tr mble is thal cos 21 J which is fiar too expen instructions ease of use dispiay money

D M

Your base is undergomg a atght-tme arr raid
Use the searchlight to prok out the enemy bombers and then blast them out of the sky!
There is no moon to help you, but you do have three flares at your disposal if you connot find your target

Shoot down as many arceraft as you can before your base is bombed out.

Use the joystuck to controt the searchisght and shoot down asterafi Fsares are fired using the space bar.

- Winning Games on the Commodore 64 , publlwhed at £5.95 by Ellis Horwood, Market Cross House, Cooper $\mathrm{St}_{1}$ Chichester, West suscex PO19 1th. As well ms 21 games listings, the book explains how to muke best use of the Commodore 64. A casselte of the programs is avaulabie al \$5.95. Book mad casselle costl £11.95. A dise verstan is due souns.


> It's World War Two again and you're in charge of an antīaircraft battery. Taken from Winning Games on the Commodore 64, by Steve Colwill and Terry Barrett, just: published by Ellis Horwood :


COMMODORE 64 PROGRAM
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## 48K SPECTRUM OWNERS Read This from ...LET'S GET DOWN TO BUSINESS... $\star \star \star$ FINANCE MANAGER $\star \star \star$

Voted "the best value financial program avallable" by SINCLAIR USER

FINANCE MANAGER is a powerful, flexible and very fast MENU ORIVEN general purpose ledger package which includes both standing order and special forward planning features The program will handle up to 255 separate accounts and 1800 transactions The power of MACHINE CODE has enabied us to produce the very latest "on the page' presentation which lets you enter and edit data naturally, as if you were filing in a form

These screens are just a sample to show the style of the program
But that's not all, not by a long way This program automatically raises a corresponding debit or credit for every entry, and will aven open a new account if an entry features an
 unrecorded account name. Information can be manıpulated in various ways - you can call up your bank or credit card account, or ana yse expenditure according to a variety of categories which you assign to the transactions. Instant Account balances can be listed at any time A great tirne saving feature of this program is that account names and transaction descriptions need only berecorded once, as als the input fields will scroll existing fies There are many, many more features which make this the most powerful finance package around, we even incude a test file for you to experiment with before getting started

## $\star \star \star$ ADDRESSMANAGER $\star \star \star$

ADDRESS MANAGER utilises the same "on the page" presentation as FINANCE MANAGER and offers Spectrum owners a professional standard address fling indexing and retrieval system Berow are examples of the screen presentations.
ADORESS MANAGER has been carefully constructed to provide the user with a tool that is extremely friendly and easy to use, the speed and presentation of


none
ADDRESS MANAGER features MULTIPLE INDEXING via our 3 way 3 character index, an ablaty to store over 400 full names and addresses or 1500 individual names/titles
USES include storing and updating names, addresses and phone numbers, printing out $X$ mas card lists etc, mail order work, customer classification by type size, \{doctors have used this program to cataogue patients by treatment).

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Qurcksilva， 13 Palmerston Rd， Southampton YOI 1L，

Furst，there was the putely text adventure game．Nexf were iext graphic，and pure graphess ad－ venture games Examples of all have passed through my Spec－ trum，ranging from absolutely gripping，to palheacally beting．

This adventure，a text－graphics mixiste，is somenhere in the middle．The graphies display the rooms，and conients，through which you are travelling．Ar top right is an indtcator which shows durection of travel，and swings like a compass needle accordung to Which cursor key you have pressed．Also displayed are objects colfected，and carrent room number，a grear helpif you
make maps．Among the indica tors is onk showing the proximily of the darnsel you are trying to rescive

Alihough you，the player，are nol portrayed，you do get the fecling of actually moving through the game This 15 what ut＇s all about，this semse of mvolve－ ment，and If found the screen pant excellent，The let－down is the actual text．Not the plot，or theme，but the dialogue Wheh is a puty，Closer atienion to the finer details of dialogue and careful program structure，to acheve faster responses，woudd fift this program from the ordinary to the gripping．B B
Ilktructions
四裸要 playabalit R1＂。
graphes
value for monet
$40 \%$
$50 \%$

## Tーラ

## Take a step into the unknown

## A page for adventure addicts．．． follow in the footsteps of our intrepid review team

# cante Bencilitar 48K Spectrum ［1．95 

S（R Adventures， 190 Shel hosrne Rd，Totlenham．London N 17

S．C．R．claims this game is a high qualaty adventure aimed at masier player and novite in ke I liate na guatel with that，＜aste Black war is very good tideed
Having＂woken from a sleep traubled by strange dreams＂ t ，i．c with ehangover，it sems that you have rashly promised the fall， willowy，blonde Lady Arierns．s that you will enter Castle Black Hat to pec ant an orb．In returat He will let you keep attyhting else wh miay Satad，Nol much of a had gall＇．I grant you，but that＂ b busdes for you

## Lords of Tline 32 K BBC $£ 9.90$

Letel 9 （ ortrubing 224 H．rghen－ den Rd，Hagh Wyambe，Butlss

Firt my thanks 10 the sotrmant Which thank ot the poner rex ewier on adsenture eames and prowes a cased＇

1 hos is a Iext adventure which contanns over 200 mecanons and some of the mosi metreuing purkes 1＇ve wome across Theres puranes to do and so many places
so much to to 4 s．st The plot swowes draveling to nine tume zones and collect the ＂symibric objects＂meeded for the final victory．The bookle is the ustual blend of hunts and tantalising minormation but it thoes reveal that it 15 essential to get in the clock and travel 10 the
arrous zones．Those that I hate ravelied to are well described and nelude many oddities and anar turamsms，ilberties which the anathor frems ab hnowiedpes
It is a Iremblly game，alluwing ou to save and rethore game poswome it aboo avects complete phrawes，thus aluesung a mome human dialogue．You can more human dial previous commands with repeat previots commands WiGHI Agatead of west and east All these and many more make this a pleasure to play

If you enjoy text adventures

The gatne is text only and itas a vocabutary of over 200 words of which only e few are known to you to begin with Response time is good and you may use short sentences like＂Take lamp and ＇ght it＂or simple verb and nour combinat ons As you search you fase mathy and taped daterers mat Ean ol whath is ge I ing lind you to no keep acareful note If you are dilled，and vou cettama uill be，you arc remearmated outsade the casace
Castle B1ackstar uses almost all asailitile memory to provide milumum play polersta．ald thould offer long term inters


## instructions <br> playabtlits

graphess

## taluc for mones

## $5 \times 5=5+5$

If your enjoy to be missed
then this stot

M．P．
instructions playabulity＇ display display
value for money
$959^{\circ}$
$90^{\circ}$
40．
$90^{\circ}$

## valley of the Phearoatis 5KDitryss

First Byte， 10 Man St，Derby

The more adventures I review the more I feed they should have to dectare certan features．The sort of thing I wourd like to see are detals of how many localions， language used，n．e，machıne code of BASIC，lype of graphecs，il any，and some indication of difficulty．Tyat is not easy to assess at all，for whal is difficuit so one is frostratang for another and simple to a thisd

This program is wenten in BASIC and，while bang farly attractive on the Mode 7 screen，is very small and slow to respond to yous moves． It is also extremelt frustralanc with only two

## Transybanian <br> Commor E6．50 69 $R$ R thard Shen． 50

R2e finmhtratd Elm House ugh ferks CJppenharn

that aly afterrised an at on tes

 ＂tal the erone alnd it Jath＇r al
 firse udage is a midegutber the

 your came of a floor pition lic You can look fiocr plan whir necessary．The nexp thefent us are renarkably simular fire stages afew cornplicalinne rim mazes，but

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\begin{aligned}
& \text { piayabilyt } \\
& \text { grajur }
\end{aligned}
$$


fividf abde aire tarmors objects to －leas wl the five hes io kill，and readily avalduer phat Tre lest ho shooring the bet as levil lims If getsharder as yous get cuss hins If you have yur go ma ballence ios find bat the rille and

 chance to hit ferel tree sultic
 4haslally keme in alaveron be lhds far，though on mares to mel

14

Wiflon
local ons accessitle at first，there fore I lind it hard to belage that a beginner with adventures will enjoy thas．You do like to pel somewhere in the first few moves， 1 find The story line is fair．y standard and has been used mans times before，notably by Acorn soft．The language underslood comprises less than 50 words -1 wheafed and jooked－which mears some frusiration in getling your mpssage across．In commun with other releases from this company there is no written documentatrop，onfy that seen on
screen
mstructiont5
J． 6
$10 \%$
playability
$50 \%$
graphes
ก／a
value for money
3）$\%$


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## U.S. SCENE

# MSX micros are caught in a vicious circle 

Here's a hifte news about the standard that hasn't happened yet. Around the middle of lass year a group of Japanese and American companies decided to espabish a siandand operams system for home computers to be colled MSX. Thes was developed by our wery own Microsoff, which seems to have as hand in everything these days from Apple's mouse to Zemih's operating system

A/though the Joponese firms which subscribed to the MSX standards are apparently donng well wifh them in Japon, the onslaught of ${ }^{3}$-bir Jopanese machines using MSX has yet to be felt pver here. The antictpated flood is instead turning our to be a frickle. Industry experts ore ssartmig 10 wonder if indeed MSX machnes could even penetrate the market af thes pornt. One thung that a lof of us nonced at the recent Consumer Electranics Show in Las Veges was the lack of MSX micros.

Even Microsoft's Far East rep mentioned his surprise at this, but fetf that the hodd-back was due to she reluctance of she Japanese firms to sake on America before she Tarwanese, Korean, Hong Kong and Japanese markets were safisfied. Even though Microsoft says otherwise, it ts atso feit that the MSX standard is just o Japanese one.

Another drowback is shas not one MSX machine has been approved for sule in the U.S. Before any computer for home use can be sold, its generated inferference level must be arceptable to the Federaf Communications Commission, wheh conirols use of the airwaves.

Sill another drawback is the ofd question of soft mare. There are only abour 150 thles of $M S X$ soft ware avaulable in Jopon, and hardly any in Engish. This struatron is nor bkefy to change soon. Activision, Sierso On-Line, and Spinnaker, whuch all agreed to the standard last year, are three manufocturens which are very reluctant to spend a signficant amount of research and development money an software products that may never be hardware-sutpported.

There is also frowble frymg fo find domestic hardware support. To date, the firs and only U.S. hardware company fo support the standard it Spectravidee in New York. Ifs moded SVI 728 is bastcally e CP/M machme haveng a decent kevbodrd and MSX in ROM. It also markefs a lorger mochne, the SVI 328. for which a 550 MSX adopter whll become avolable in sprthg.

Micrasoft is hoping this wif truly become a standerd, so much so that if has even designed a 16 -bit verom called MSXDOS which whf be compatible wih CP/M-80 progroms but will be able fo have colour and graphics capobilties too. MSX files wil be comparible with MS-DOS files. Micrasoff hopes thas will encourage users of MS-DOS af work to buy smaller and less costly machmes to process the same files of home. Later this year if is plonning to release rewruten verstons of some of its extring applicafions prognams stuch as Mfulsiplon, and longwages such as BASJC, FORTRAN, and COBOL

Spectravide 5 , of course, working hard to develop handware that will support alt this, in the obvotas hope that if will be the leader of the pack, MSX+ware. It feets that its serond generation machine, to be inmoduced ith June ar the summer Consumer Efectronics Show in Chrcago, whll take the indturry by storm. Two of the leaders of the low-cost compurer morker, Coleco ond Commodore reman unmpressed. A spokesman for the former modicated that the man manufacrurers hove oineody adopted a wat and see attrude, while the Commodore spokesman was very forthright th stating that shere was no pount in adoptang a hardware standerd for which there was ho sofi ware.

## Bud Izen

Farfield, Colifornia

## praslone

1984 is already beginning to see Pro


#### Abstract

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## SOFTWARE REVIEWS

## Dambusters 32K BBC E7.95

Alligata, Ify West sk, sheff eld SI 4 E T

This gatne has a new scernano, to me at teast You patat a Welming. tor Bomber as patr of the 617 Squadron to an atlack on the Mohnesee Dam. This means you Have not onsy got to try to bornb the dam but also keep off the chemy uircrall.
To help in this task you have boild rear and trunt gur poations This means that uith up, down, accelerate, dexelerate bad reetaic bumb there are seven conarol keys This suguents one ar two thange ether the gatye tr mexat for Panctud liceak $x_{+}$to whom the matipualton of handreds ol kets, presents so problems, or that it is for those under the advalied 4 ge to whichl how have to adrats' Put
in other words I found the game rather hard and l'm not es en vure if there is a second mare difficuli

The sreen layout is a lite lacking in colaur but I m certa.n this is for soded, of which thus program does make goond use The moveng graghts are ber good indeed. Bomb aiming ts farly easy usidg the convergent fught praciple the setual bombers used. 8ut mine kept hutite the ssland

## insiruzl ofls

13.C.
playabisty
$90^{\circ}$
มгары
$4{ }^{20}$
valueformones sum。

will you believe it's real?

## Our reviewers tackle bulls, run businesses, command a sub and pilot a bomber

## Stock Market 48K Spectrum E6

Catec ( 0 thpuler Smulatoms, 14


If you're ted ap wall cathor power till fita blaying dragunsl tenthas may be for yol.

Yot have flve davs to maxmaxe your invesiment in sixcomspanies. You are glven $\overline{\mathrm{S}} 15,000$ to ta art with and youscun then buy or sell shascs. Your cash level is constantly primed and yous are alowed overdrafis, If you have over E, $\mathrm{S}_{\mathrm{a}}(\mathrm{M}) \mathrm{O}$ y you sat bank some fo kith mberest
Loth of detaled informataon is atulable, well presented and slear, with the opl on of well drawti diagtams. Play is inter spersed with newshasmes whith affect prices and stability of the
market if a company has dene very well you get bontus shares tal sumel mes comprimes tal. Thete ts 4 mutar but: when you have asked for company dethils im the beranilig the pogram

 alrwall wal be wel.
 your falizs, for ckillpe 'On two occosions yous held onto shares I ligh prices when thry were falling " Several paragraphs ere on the same vein. I like thes sdea, perhaps I should have asked the program to review inself'
matrustions care of use drolits
value lar mones

## $\vec{x}-5 \cdot 5$

sub spectrum E6.99
Romik. 272 Argyll Ave, Slough, Berkshtre
Sub simulates a struggle betwech ou, saptaim af the Anachrondus, ind a mowe is is i marme How securate nt is war would not knew is my nas furlher fare experiente extentas areteriz on thant the gucite bf fers But never the late of was motrigutige and thalienging
lie sereen shows instruments for range, depth and direction of loe alolig with you speed, headurs and tuduer postion Nas dil played is the dipith setting and your depth charges. Is the centre Is the sonut tisplay
is the sontr tisplay
By varying coutse and speed
you try to materept and destroy the sub befote the torpeded being Mly early etforts theluded bern blows out of the water alter less thats a minute, likely to be m unflealatble record. II yibl win wirl get at brief rendstrins of Rule Britanna
There are theec rank\& prost There leading to hatder game olton leading 10 ela Hogher levels and lise shati lebela Higher tevolmy aft cerlantis taving sems anme Russtans as entemes secms ato with haw tmproper compared and futhous prathels Detars west relathors
instructions ghayability
yraphus
yraphic for mones
$90^{\circ}$
$80^{\circ}$ 。
60 ${ }^{\text {ch }}$
$85^{\circ} \mathrm{F}$

## Manage 48K Spectrum E5

Cases Computer Sismularions, 14 Langlon Way, London SE 3 7IL

A program for the budding entrepeneur or A level busimess studies sludent | had to engage the sersice ol twoll to mable me to mak e head or tan ot it
The dea $\begin{aligned} \\ \text { to build up cisll and }\end{aligned}$ plant se sour oppunent tannol compere stucesfts is
tanh flust make deus ons price of goods and marketing. production, research and devetopment cosas Once yos have typed in these numbers, the recults are calculated This 15 whete mi enlrepencur blabitess student came no: Five pages of mformation were displayed, all double Dutch to me, even though
the inlay staled: "No prior fimantial knowledge is tequised.' The mean ng of the fargon is hol explained in the instructions they don't explan much more thath the rules
However, once it the know, I found the unformation to be an essensial part of the same, well displayed and casy to understand once you know what the headnys mosan As a game I found it a lite e icdeas io play because of all be dila plavers have to enter How eter al cogald prove aseful as an edwat onal and Nouhere does it lell vous what tad are upposed to be selling'
instacticans
case of use
dapliy
value for montey


## Hints on conversion

PROCedures are stmilar to GOSLB except that they need no line number．The foltowing PROCs are used
PROCinit Inı！atisalıor
PROCitide tute page
PROCunit roads（IIEVEL）sets number of cars on roads depending on level
PROK．screen sets up games screen
PROCmove tars moves cars on road
PROC＇key rheck checks if key bas been pressed
PROU ilme updates fime cosunt－ down
PRO（Jives（L．W）prines number of Inves left
PKOC＇samke muves snake un grass PROCseore（ ${ }^{(0 \%} \%$ ）updars score
PROCcrash check checks if Jrog has been killed
PROCtune plays tune
Mode 2 sets up screen 20 rows by 32 columns or 1280 by 1024 pixels

1\＆FF00＝610200A kills the cursor
$?(\mathbb{2} 25 A)=40$ puts keyboard in upper case and keeps it there
＋HXIS， 1 clears keyhoard buffers，

Allval．（0）checks lire button and ADVAL（1）End ADVAL（2） check joysick mavement
＊1） $23, \ldots$ defines user defth able graphuss

R．NYFL．（4PE controts charec let of SOUND slatemeal
－1fL28 sels lext window
In this garme for the BBC Model B called Ribbet，you are a frog and you have to cross a main road with lots of cats．

You tave five lives and there is also clock the top of the screen－dawale too long and

## Hop across the rodd．．． and watch the cars and snakes

## Your skill at dodging cars and Sid the Snake will be tested in this variation on a popular game from Andrew MacMaster





```
1Bte PRDC&\piLt
18LI PRDCt?t!=
1E12 YDU7% FIDDEZ
```



```
1638 PruLecremen
1B4s PROC OOVE (-1)
1B45 SC-0
100NG PRDCK|y ctrwc:
```



```
j0ug PROCcrath Eheck
18701 PPDCtam
1071 PROCIavme'LY)
1872 [FDE=ITMENDE -G; GOTDEDGA
```




## Varighles

S\％score
I Y lives left
X1 X postion of frog
Y1 Y position of Jrog TT ume left
HOS（4）river bank holes
I． 5 muddle of road
RS（4）roads
RIS（4）river
IFWEL curzent level AS inpul
JBY joystick or not AA madle pornt of frog
you run out of time and die． There is also a patch of grass near the road which hides Sid the Snake．

Get four frogs across safely and you get a chorus of Yankee Doodte Dandee and gon to the next level－there are five in all
You can use joysticks in place of the keyboard．When the program says SPACE or FIRE to start the game press FIRE for the joystick selection
The game takes up 6634 bytes of memory in MODE 2 leaving 2070 bytes free to shorten the program．Typing in Time，the ttile page，joystick routime and two tune sections could all be left out

How II works
L1000－1011 tnitialise and call citle page
1020－10．30 sel road and sel up screen
1040－2000 man program loop
आK0－15140 subroustmes
$15300-15350$ joystick ies

```
200t* G0701045
    306R DEFFPRDCINIt
    30m1 YDUZ$,244,9,129,129,64,64,$4,24,0
```



```
6,255, 255,255, 255, 255,255, 255, 255
```



```
    (255),RND (255),RND (255), RND <255:
```



```
    {255} 4RND {255} ,RND {255} %RND (255)
```



```
    (255),RND{255}, RND {275) ,RND [255)
```




```
    3013 VDU23,23星,昌,2,5,3,7,7,23,6J
    3515 VDU23,231,6,44,14B,142,224,224,232,25%
    301日 VDU23,232, 63,6J,51, 31,15,15,8,26
    302% YDU23,233,252,252, 240,24日,24B,240,2b,56
    3022 DIFHOB(4)
```




```
    404R VDU23, 224,%,224,7B,255,255,76,224,0
    385% VD,v23,225,0,231,66,127,127,66,231, [
    306% VDけ23,226,7,2,71,255,253,71,2,7
    3076 VDU23,227,m,251, 255, 255, 255, 2%5, 231, 悉
    3075 VDL23,229,153,189,126,60,60,235,129,129
```











```
N,CH(#5244) 1NEXT
    30%5 LEWEL=1
```



```
    3102 XI=10工`1=27
    3104 ENDPRES
    3105 DEFPRRDCinit,_road星(LEVEL)
```

```
51:% St-STRINGI\L (LE VEL)." ")
$1!5 LJ=L{LEVEL\+1
```



```
R射:V=U*1& PH K7
```



```
    *)INEXT
    $14g FOR\pi=|TGAgT=RND(18) &FDRY=1TDT
```




```
    TIAS ENDPFNOL
    4BON DEFFROCECPMEM
    401& CLS
```



```
    4020 %...⿰⿱幺⿲丶丶丶⿻コ一⿱幺小
```






```
    405% COLOLTR132
```



```
4T2NEXT
    4062 PFINTTAB(0,4) & SE 
```



```
    4Dad PRINTTAB6B,日 ;SE $
```



```
    4067 PRINTTAB(0,12); SC#
```




```
    PFINTTAB(B, 14): :FORX=1TO2自:FRINTCHR&255: &NEXT
```








```
    *112絤㓪
    4:13 ENDFFOC
    4115 DE.FPROC=Ove c,#rs
    4!16 [m,N
```



```
    4:24 PROCcralsh thmek
```


## BBC PROGRAM


41 Te COLOLR1：PRINTTAB（風，19）；R（2）
41 र4 FFECCrash thert


4144 PROCER ath chack
4145 COLOURB：PRINTTAE $(X), V 1) \& C H A=229$

415 FROCc ath cher


4154 PRINTTAB（e，71 5 RIE（2）












4171 IFHD＝日THENA？60
A192［FYI＝5 OR YI世4 JMENXA＝1
4193 IFY



47 HE ENDPRDF
4218 DEFPROChey chact：
$42157(872(\mathrm{~A})=4 \mathrm{a}$
4720 A
42．5 JFJOY＝1 THENoran Jayme 1ekm
 E




4254 514～＂＂
42 SS PFINTTAB（X：，Y）





4271 JFY1 3 THEN 1 OMAH
4272 1FM＝1 THENE NIIFROC
4，275 Frorec ish tur：



atwen trifikncer ant chor





$454 \mathrm{CED}=1$
4－＇VA ENDFROC

720s TTE二STR

7219 TTーTT－ごIFTT GTHENTE＝1：ENDPROC
723 ENIPRROC

GMES HTJ＝COR OUR 7
 SOUNDDA，1，5，5




日ege READA，READB＋5OUND1． $3, \mathrm{~A}_{1} \mathrm{~B}$

日ッ57 NFXT
 gets of x13．， 1

B1 6 DATA $169,16,129,15,179,5,129,10,145,18,157,15,129$ $5,137,1$ 华，145，10，129，19，127，10，145，16，157，17，165， 30 E110 DATA $165,10,157,15,145,5,145,10,129,19,137,15,129$ ，5，137，10，145，10，129，15，117，5，117，10，189，19．129， 29 E2ED DEFPRCKIivesilv）
 PRRINT＂
 REEVEL？：PRRINTLV\＃
E22R EMOPROT
gerar rempne g game



9050 COLOUR $5:$ PRINTTAB $(3,7)$ ；＂ANCTHER EAME＂

## 




9090 GOTOFA69
Pact EMD
7100 DEFPROCLUNE

9！2晏 READA：READELSOUND $1, S, A, B$
91 VR ENßFROC
 $9,5,177,=195,5,195,2,195,5,177,2,169,10,169,5,169,2,15$ $7,5,157,2,157,5,165,2,167,5,165,2,169,5,157,2,149,5,157$ $, 2,147,5,137,2,149,19,149,5,149,2,149,5,149,2,149,5,141$ $2,157,5,149,2,169,5$
 $77,18,177,10_{4} 169,18,165,10,169,24$

¢TED FESTORE 9 K5

5720 RE ADA：FE ADE：SDUNDL ， $7, A$ ，B

9740 NEXT

9345 GOTD4272

 45，5，147，5，165，5，157，5，149，5，145，5，129，5，137，5，145，5， 44

9434 DFFPRDCEC or（SC）


94．3 EMDPROC



967 ENDPROC

9b－5．Y $3=12$＋RND \｛ 5 ） $5 k=1$



$11800^{\circ}$ REHHNE

11100 IFYIm3 OR XIm THENHX＝


t11＊IFXI＝15 DK Xi＝16 TritNNZ＝4
t113s｜FHZ＝日THNTI－B；GOTCH275



1：1空2 MEX


11168 HOP $\left(\mathrm{HX}_{\mathrm{x}}\right)=-\mathrm{F}^{+}$
1117 50 DOR2

11180 IFH：



 ｜\＆CHRE232，CHFA23



1：312－F45．t
1：3IS IFML＝1THEMOTOG
115．0 EOTO4272
150N3 DEFFRECtitle







I5076 PRINTTAB（4．153）＂

15095 PRINTTAB $(4,17) \xi^{*} /$－BACKWARDG

15182 PRJNTTAB（4，223；CHR\＄229；＂－Franco Frog＂

Gıd＝nak ${ }^{\text {che }}$

15115 PRINTTABr 3,29 ；＂＂SFACE GR FIRE＂
$15 t 2$ A A ADYAL（B）ANDSE IFA＝1 THENJOY＝1\＆ENDFROC

I5l48 64Tロ151天D



15330 ［FADVAL $2400 \mathrm{GTHENAX=7}$ ．＂

15方角 ENDFPDC


## Mind the flak，chaps． We must destroy the dam

Your arcraft is tryng to destroy an enemy dam by dropping bouncung bombs．Your bombs must hut the water before hutting the dam or the enemy will retalate with anti－aricraft fire， damaging your engines

Five hats on the dam are required and you have up to 10 bombs to complere your misston The game is farly user－hostile in that there are many ways of losing －crashing into the water，getting hit by your own bomb，being shot down or just runming out of bombs
Full instruchons are meluded in the program，so good luck and come back safely，chaps．

How it works
190－390 defite characters and assign colours
$\mathbf{4 0 J - 5 9 0}$ 1ile screen and เл structions request
6010－700 instructions
$710-820$ sk til levels
830－1030 set up screen and sel vas ables
$1100-1170$ set plane moving 1190－1210 derect plante crash
1230－1490 detect keys and release bumb
1540－1530 check position of bomb
1530－1790 anttoareralt rite，hits on dan
1814－2140 dian destroyed 2170－2．580 lose sequences


> The pride of the squadron rests with you，your crew and your TI－99／4A．Type in Graham Baldwin＇s game for the standard TI．．．and return home safely to Blighty


Hints on conversion Ti BASIC is farly standard bul has some tuntque graphies con－ mands，some of which are detailed betow．The screen 15 made up of 32 columns and 24 rows

CALL CIEAR clears the sereen Replace with CLS or simiar on other mactumes

CALL CHAR re－defines an AbC E character with asixteen dight hex string derived from an $8 \times 8$ grid

CALL HCHARIR．C，AhC＇E） places a character at row R and column $C$ on the screen and optsonally repeats it horizontally

CALL YCHAR simalar to HCHAR but fepeals charac： ter vertically
（ALL ECHAR（R，C，X）repeats the ASCF code to varictile $X$ of screen posilion $R$ and（ Simular to a screen PEEk on other machines
（AIL，KF $\mathbf{Y}(3, \mathbf{N}, \mathrm{~S})$ prabes the code of the key pressed ittor the variablek Similar to CEI of other computers

## Moln varipbles

ROW row of plane
C．（）L colutnt of plate
BR sow of bomb
HK＇column of bomb
ME stumber of thils on dam
BMy number of bombs
R土．V clinto or dive plane

```
100 REM
```



```
120 REM
130 REM
140 REM
150 REM
160 CALL CLEAR
170 REM *DEF CMRRS*
1日0 C&LL SCREEN(%)
198 CALL CHRRく 135,"10101QFFIDIB1010">
2aD CMLL CHAR< 112,"FFFFFFFFFFFFFFFF" >
210 CALL CHPR(113,*103B7CFEFFFFFFFF*)
220 CALL CHAR< 97,"20R|CEFF7E081020")
230 EFLL CHARく SB, "00902G702")
24日 CALL CHAR(10S,"S95A3CFF193CEA99")
250 CMLL CHMR( 120,"FFFFFFFFFFFFFFFF")
260 CRL& CHARC I21, "FFFFFFFFFF3C303C*)
270 CALL CHAR(122 "G90193@6BC&B3ल60")
```



```
290 REM *COLOURS*
30D CA&L COLOR(14,12,2)
319 CALL COLOR(16,12,5)
320 CALL CHLOR(11,日,5)
330 CALL COLOF(9,16,5)
348 CALL COlOR(10,9,16)
350 CRLL COLOR(12,2,5)
368 REM *SET SCREEN程
370 FOR E=2 TD 自
```

```
3日Q CREL COLOR(I,15,5)
39% NEXT I
400 RANDOMIZE
410 CALL SQUND< 19R,1EOD 5.
420 MS宣"DAM RRIDER"
430 RP=10
440 F=10
450 GOSU8 2590
469 MS急r"************
4 7 0 \text { CALL SOUND(100,1800,5)}
480 RPw12
490 F=10
590 FOSUB 2590
516 MS*F"DO YGU NEEO BRIEFINGT 〈Y'/N\"
520 CREL SOIFND(100,1BEQ,5)
530 RP=16
540 F=3
550 GDSUB 2590
560 C^LLL KEY<3,K,S)
570 IF Sm0 THEN S60
580 IF K=7日 THEN >10
590 IF K<<B9 THEN 569
600. CAILL CLEAR
610 PRINT "YOU RRE FLYING A TLIN-ENGINE":
```


## Tl－99／4A PROGRAM

620 PRINT＂ORM－RMIDER AIRCRAFT．＂
636 PRINT＂DESTROY THE DAM BY BOUNCING＂
642 PRINT＂BOMES OFF THE WATER．＂
659 PRINT＂FIVE HITS ARE REQUIRED．＂
650 PRINT＂A DIRECT HIT WILL CAEISE＂：
678 PRINT＂RNTI－RIRCRRFT FIRE TO＂
6日e PRINT＂DAMAGE ONE OF YOUR ENGINES．＂＋
690 PRINT＂PRESS U TO CLIMB RND＂：
700 PRINT＂SPACE TO DROP $A$ GOME．＂
710 PRINT＂SKILL LEVELT（1－3）＂
729 CRLL SOUNO 100.1800 ，6）
730 CALL KEY（3，K，S）
740 IF S40 THEN 730
750 IF Kく＞49 THEN 7 P0
760 日MS＝10
776 GOTO 838
78日 IF Kく＞50 THEN 日İ
790 BMSM
日eø СOTO 930
日10 IF Kく＞51 THEN 720
020 BMS $=5$
839 ENG＝2
849 CRLL CLEAR
858 SCR－0
G60 REM WSET UP SCREEN＊
970 CALL HCHAR（20，1，113，29）
Geg CRL HCHAR（21，1，112，129）
日90 Fm
908 RPロ23
910 CALL VCHAR（ $16,30,136,9$ ）
920 CALL YCHAR（ $17,31,136,8$ ）
930 CALL VCHAR $16,32,136,9$ ）
940 CALL HCHAR $19,1,120,6$ ）
950 CALL HCHAR（16，4，121）
960 CRLL HCHRP（ $17,4,122$ ）
979 CALL HCHAR（1，7，152）
906 CRLL SOUNO（19，1800，6）
996 MS＊上＂日OMES－＂MSTR（EM8）
1006 GOSU日 26e0
1016 ROW＝INTく 1 O＊RND ）+1
1920 REVEI
1 1930 CALL HCHAR（20，1，113，29）
1048 COL＝1
1050 F－10
1050 RPM 23
1070 MS＊－STR
1060 Gosus 2600
1098 REM WTHE GRME＊
1109 CRLL HCHRR（ROW，COL，97）
1118 IF EMS＝8 THEN 2290
1129 CRLL KEY（3，K，8）
1130 CALL HCHAR $K O W$, COL，32）
1148 COL COL +1
1150 ROW＝ROW＋REV
1160 IF RDW $>1$ THEN 1190
1170 ROW＝1
1160 REM＊OETECT MITS＊
1190 CALL GCHAR（ROU，COL，CRH）
1200 IF CRH 1232 THEN 2290
1210 IF COL＝32 THEN 1018
1220 REM＊DETECT KEYS＊
1230 IF K＜＞85 THEM 1258
£246 REVm－1
1250 IF Kく＞32 THEN 1190
1250 CALL SOLNO $15,1900,1,=7, \theta$ ）

$1280 \mathrm{~A}=1$
1290 Q＝
1390 $\mathrm{BR}=\mathrm{ROW}+\mathrm{A}+1$
1310 日C＝1
1320 BC＝COL
1330 CALL HCHRR（BR，BC，9日）
1340 CRLL HCHPR（ROW，COL，32）
$1350 \mathrm{COL}=\mathrm{COL}+1$
1360 IF COL＝32 THEN 1370 ELSE 1450 1370 COL－1

```
1386 REV=1
1390 CARL HCHAR(20,1,113,29)
1400 ROW=1NT< 1Q*RMD ) +1
1410 F=10
1428 RP=23
1430 MS*-STR*(BMS)&* "
144B GOSUB 2508
1450 CALL HCMAR(ROW,COL,97)
1460 CALL HCHAR(BR,BC,32)
1470 GR-BR+A
1480 BC-BC+1
1490 IF BC>32 THEN 1100
1500 CALL GCHRR(BR,BC,H)
1510 IF HO-32 THEN 1330 ELSE 1520
1520 IF HF113 THEN }1530\mathrm{ ELSE 1590
1538 R=-1
1548 REM *SHELL-FIRE*
1550 Q=1
1560 CFLL SOUND(40,-6,1)
1570 CALL HCMAR(BR, BC, 32)
1580 GOT0 1330
1590 IF H=136 THEN 1610 ELSE 1600
1600 IF Hm97 THEN 2.370
1610 IF Q=0 THEN 1620 ELSE 1750
1620 CALL HCHAR(16.5.1MS)
1630 CALLL HCHAR(11,16,105)
1640 CRLL HCHPR(11,27,105)
1650 CALL HCHAR(11,9,105)
1660 CFLL SCREEN(9)
1670 CALL SOUMD( 500,110,8,-7,1)
1600 CRLL SCREENK5)
1699 CALL HCHAR(11,9,32)
1706 CALL HCHPR(11,18,32)
1710 CRLL HCHAR( 11,27,32)
1720 CALL HCHAR(16,5,32)
1730 ENG=ENG-1
17AE IF ENG=0 THEN 2460 ELSE 1100
1750 SCR-SCR+1
1760 CRLL HCMAR< ER,BC,205)
1770 CMLL SOUND(500,110,5,220,5,-7,1)
170日 CRLL HCHAR(BR,BC,32)
1790 IF SCR=S THEN $000 ELSE 1100
1000% REM *WIN SE味
1010 CALL VCHAR(16,31,105,9)
1920 CALL SCREEN(11)
1830 CALL HCHAR(ROW,COL, 32)
1040 CFLL SOLND(100,110,4,-7,1)
1050 CALL SCREEN(5)
1060 FOR Im1 TO 16
1870 CALL SOUNO(-150,-7,1)
10日0 NEXT I
1090 CRLL VCHAR(16,30,32,9)
1900 CRLL VCHAR(16,31,32,9)
1918 CRLL VCHRR(16,32,32,9)
1926 CRLL HCHAR(21,1.112,128)
1936 CPLLL HCHAR( 19,1,32,6)
1940 CALL HCHAR(1e,4,32)
1950 CALL HCHAR(17,4,32)
1960 FOR I=20 TO 24
1970 CALL HCHAR(1,1,1:3.32)
19日G FOR D=1 TO 2eb
199% NEXT D
2999 CALL HCHPC(I,1,32,32)
2010 CRLL SOUND(360,-5,6)
2e2g NEKT I
2038 CALL CLEAR
2040 CREL SOUND(190,234,4,440,4,370,4)
2059 CRLL SOUNO(1000,294,1,440,1,370,1)
2060 PRINT = YOU GURST THE DAM.N
2@7a PRINT - MISSIDN SUCCESSFUL.*"
2080 PRINT - RNOFHER GRME? \Y/N>'
2090 CRLL KEY(3,K,S)
2100 IF S=0 THEN 2099
2110 IF K=89 THEN 2130
2120 IF K=78 THEN 2450 ELSE 2090
2138 CALL CLERR
```


## TI-99/AA PROGRAM

```
2140 6070 710
2150 CALL CLEAR
2168 REM *LOSE SEQ*
2170 CALL SHREEN(5)
2180 PRINT " YOU WERE SHOT DOWN.
2190 EOTO 2080
22ge CRLL HCHAR(ROW,COL, IA5)
2210 CALL SCREEN<9)
222g FALL SOLNO< 990,110,7,-7,1)
2230 CALL CLEAR
2240 CRLL SCREEM(5
2250 PRINT " YOU CRASHED, ",
226% CALL STUMNK 100,196.1)
2260 CALL SOUMCK 100,196,1,
2200 GOTO 20B6
2290 CALL CLEAR
23@% CALL SOUMD(!09,196,1)
2310 CALL SOUND(400 165,1)
2320 PRINT " YNU HR'VE OROPPED
2330 PRINT * RLL YOUR EOMES."
234Q PRINT " MISSION REANDONED.
2350 GOTG 2080
2360 CRLL CLEAR
2370 CPLL HCHAR<ROW,COL,1R5)
2389 CRLL SCREEN(9)
2398 CALL SOHND<600,110,5,220 5,-7,1)
2400 CALL SCREEN(5)
2410 CALL CLE&R
2420 PRIMT " YOU WERE EROUGHT DOWN".
2430 PRINT " GY YOUR OWIN BOME,".:"
2440 GOTO 2000
2450 END
3460 CFLL HCHARKROW,COL,32)
```


## 2470 ROW- 1

2480 COL=1

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Frogger
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Compilad by Websters. Figuras in brackets are last week's posituons

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4 Revange of the Mutant Carmels Magawarz Space Shutla Mr Wimpy Falcon Patrol Hunchback Cosmic Convay

Oceand-1 Sofiware Projects (-1) Quicksiva (-)

Llamssott (1) Paramount (-1
Microdesi (6)
Ocean (2)
Virgin (7)
Ocean (5)
Task Sot (-1

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1
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4
5
6
7
6
1

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. Ant Attack
Stonkers
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Psion (2)
Psion (5)
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Imagine ${ }^{\text {l }}$ 가
Durell (-)
Imagine (10)
Ulimate is)
CDS (-)

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## TOp 30

| 1 | Manic Miner | Sotware Projects | Spectrum (1) |
| :---: | :---: | :---: | :---: |
| 2 | Hunchback | Ocsan | Spectrum (2) |
| 3 | 3D Ant Attack | Ouncksiva | Spectum (5) |
| 4 | Jetpac | Ultimate | Spectrum (4) |
| 5 | The Hobbst | M. House | Spectrum (3) |
| 6 | Atic Alac | Ulimate | Spectrum (9) |
| 7 | Lunar Jetman | Ulitimate | Spectrum (6) |
| 8 | Vaihala | Legend | Specturn (8) |
| 9 | Harrier Attack | Durre\\| | Spectrum (7) |
| 10 | Hunchback | Ocean | CeM 64 (10) |
| 11 | Chuckre Egg | $A E F$ | - Spectrum ${ }^{\text {(13) }}$ |
| 12 | Falcon Patror | Virgin | CBM 64 \{11) |
| 13 | Hobbit | M. House | CBM 64 (12) |
| 14 | The King | Microdeal | Dragon (17) |
| 15 | Frogger | Microdeal | Dragon (16) |
| 16 | Kong | Ocean | Spectrum (14) |
| 17 | Zoom | Imagure | Spectrum (18) |
| 18 | Chequered Flag | Psion | Spactrum (19) |
| 19 | Penetrator | M. House | Spectrum (15) |
| 20 | Hunchback | Superior | BBC 1211 |
| 21 | Cuthbert in the Jungle | Microdeal | Dragon \{20\} |
| 22 | Bear Bowver | Artic | Spectrumi-1 |
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| 24 | Crazy Kong | Interceptor | CBM 64 (27) |
| 25 | Eskımo Eddie | Ocren | Spectrum (-) |
| 26 | Arcedia | Imagina | VIC-20 2231 |
| 27 | Chinese Juggtar | Ocsen | CBM 64 (-) |
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## ETTERS

## Whoops!

Robot Riot, costung 5595 for the 48K Spectrum, is by Silversoft, of $27 \mathrm{I} / 273 \mathrm{KImB}$ STrett, London W6 9 LZ , and Heist the BBC game, is by Sofispo1, 29 South Crescent, Príellewell, Southend SSZ 6TG. These details correct errors in our review pages
HCW revinw leam

## Help me over Hobblt

You amounced in your news secilon in November that A BOC versich of The Hobbit had bees released by Melbourse Hotse and 〔purchased a copy of this lape for use over the Christmas period
First ol' aill, 1 encountered the same problem es your reviewer (HCW 44, Jan 10) in that one stde of the lape Woud not load on my BuC model B or on two other machunen owned by friends.
The second side of the tape loaded with difficully, but you could eventually gei the program loaded and runnalig

But after a short imme problems occurred The two "windows" metged, with the sommuntedion wirdow displaytig Into the adventure window, answers given when no questiont were tsked and answers given incorrectly, e. ${ }^{6}$, *you cannol to soctt" when you had syped in "go north";
I had the same restalu on my [riends' machunes and on all three computers the program fisally geized up with the SHIFT LOCK light coming on and all functions ceasing, except for the final BRFAK

I duly relurned the tape to Melbourse House, in Jeddington, Middleser, on Deceniber 2 and have not heard a word since

They are among your regular adverlasers, so would you please take up the mateer with them?
D. E. Keightley, Wriford-on-Avon, Warwickshire

Alfred Milgrom, managing director of Melbourne House, sad: "My Jfa/f hat' searched the records thoroughty and we cun find no trece of Mr Keightieys lope. This could, of course, be due to the Chrisimas posi

However, we would hike to apologise to hm for the obvious inconvenience
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I an the owner of a Mermo tath MTX 500 and an evid reader of your magazine But, for compuier that has so much going for if, I onty know of one firm that pro+ duces sofiware for it

So could you please inform all other MTX 500 users thal they are not alone if wanting soliwate that wil) use the full capabsities of this preflisnt compiatit

Maybe one day tn the near future we'ill see printed some reviews for MTX $500 / 512$ software - perhaps by myself when I get beiter at progtamming
A. W, Kink. Ibsburs. verihern Iftiand

## Irruaders on the way

Following it review in your magayne, 1 asked my wife. Rosalie, to buy ane lavaders for the 48 k Otte, from Arcadia Suliware, of swansen. for a Chistmas present. She sent a cheque for $5 \$ 0 \mathrm{n}$ the beginning of December
When nothing arrived by Christmas we gesumed thal it was due to the Chrtimas rush and held on for another fortnight

A bank stalement then showed that the cheque bad been ceshed before Cbrsstmas and I wrote to the company on January 16 asking them to send the game or refund the mosey

We have received noktusg Directory Enqumes has no elephont number for the company. so I cannol get in
touch with them that way
I would be mosl graterulif you could atsist us in any way, as you appear to have heiped many other readers Algn James, Leek, Stafts

Tony Lave, propriter of Arcadia Sofiware, sasd There seers to have been a shp-up somewhere. We are sprry that Mr James did not necerve the tope. We are sending a copy of onvaders ro kum by first class post todiur and we know he will enjoy playing It. $^{\prime}$

## crveita Fest

I am writing to try and clarify : pront made by one of your reviewers in HCW 48 when the clams: "I can never remember seeng a doted sembreve rest Perhops they have jusi evaded mue. "Well that is the case - they have evaded him

I have been playng E fla taba in bras bands for several years and in mustc where there ate in excess of four parts, as the rewtewer probabty wall knows, res 5 of short or long persods are frequent. If the tame signature is $6 / 4$ or $12 / 4$. Ihen the doted sernibreve rest can become quite a common occurence especi aly th the very rare $9 / 4$ 1 me

I ara nol trying to cnitacise Ithe reviewer in any way, it's Just a point I feel skould be pul straight
John wistey, Aberilliery

## What about the 1K2

t have only one question to ask you ZX8: ownets. Why aren't you sending any IK games?

It's easy for you 16 k owners sending an programs but the IX owners (of which there are a fol) - come on, send in your programs and this will make the other owners happier at there aren't many IK games athout
Robert Jones, Burton-anTrent

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